

Appl. No. 09/976,522

REMARKS/ARGUMENTS

The foregoing amendments to the specification are presented to clarify the official record in respect of the above-identified application.

The amended paragraph of the specification properly indicates that this application claims "the benefit of", instead of "priority from", the earlier patent applications that were already identified in the specification.

For the assistance of the Examiner, Applicant has also clarified that the present application is a divisional of parent U.S. Patent Application Serial No. 09/851,565, and that the parent application is a continuation-in-part of U.S. Patent Applications Serial Nos. 09/823,667 and 09/779,381.

Applicant notes that this application had previously been amended to include specific references to the earlier applications of which the benefit is claimed under 35 U.S.C. 120. The above amendments merely clarify the benefit claims.

In the Office Action, claims 1 to 3, 7, 9, 45, 47 to 49 and 51 to 53 were rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent 6,463,063 (hereinafter Bianchini).

Regarding claim 1, the Office Action refers to Figure 7 and columns 2 and 3 of Bianchini as allegedly disclosing the claimed multi-service segmentation and reassembly (MS-SAR) integrated circuit.

Claim 1 recites an MS-SAR integrated circuit comprising a first bus interface, lookup circuitry, segmentation circuitry, reassembly circuitry, and a second bus interface. According to the claim, a data path extends from the first bus interface to the lookup circuitry, and from the lookup circuitry to the segmentation circuitry, and from the segmentation circuitry to the reassembly circuitry, and from the reassembly circuitry to the second bus interface. Both cell-protocol traffic and packet-protocol traffic pass over this data path.

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The paragraph bridging pages 2 and 3 of the Office Action alleges that Bianchini implicitly shows a data path extending from the segmentation mechanism 30 to the reassembly mechanism 28 of Figure 7, and that both cell-protocol traffic and packet-protocol traffic pass through the segmentation mechanism 30 and through the reassembly mechanism 28. However, no such data path is implicitly shown in Bianchini. In fact, Bianchini teaches away from such a data path.

With reference in particular to column 2 line 66 to column 3 line 2, Bianchini discloses that the reassembly mechanism 28 is for converting cells to packets, and that the segmentation mechanism 30 is for converting packets to cells. According to column 3 lines 10 to 14 of Bianchini, the segmentation mechanism 30 breaks variable length packets into fixed-length ATM cells prior to sending the cells to the output port mechanism 18, and the reassembly mechanism 28 queues cells required to form a packet and only sends a complete packet to the output port mechanism 18. Clearly, Bianchini does not disclose a data path extending from the segmentation mechanism 30 to the reassembly mechanism 28. Bianchini also does not disclose that both cell-protocol traffic and packet-protocol traffic pass through the segmentation mechanism 30, through the reassembly mechanism 28, and out of the output port mechanism 18. As noted above, packets flow through the segmentation mechanism 30 and to the output port mechanism 18, and cells flow through a different data path, through the reassembly mechanism 28 to the output port mechanism 18.

The separate cell and packet data paths in Bianchini would be further evident from Figure 8, which explicitly shows distinct data paths from a switch fabric 22 through a segmentation function to cell output ports and from the switch fabric 22 through a reassembly function to packet output ports. These separate and distinct data paths are also described at column 4 lines 44 to 58 of Bianchini.

Claim 1 thus patentably distinguishes over Bianchini for at least the above reasons. Claims 2, 3, and 7 depend from claim 1 and similarly distinguish over the cited reference. Claim 7 adds a further distinguishing feature of memory manager circuitry, with the data path extending

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from the segmentation circuitry to the reassembly circuitry via the memory manager circuitry. Bianchini does not disclose memory manager circuitry arranged in a data path in the manner recited in claim 7.

Turning now to independent claim 9, this claim was discussed in the Office Action along with claim 1, but recites somewhat different subject matter, specifically an integrated circuit comprising a first bus interface, means for generating a segmentation trailer, means for checking a segmentation trailer, and a second bus interface. Claim 9 also recites a data path extending from the first bus interface to the means for generating, and from the means for generating to the means for checking, and from the means for checking to the second bus interface, wherein both cell-protocol traffic and packet-protocol traffic pass over the data path from the first bus interface, through the means for generating, through the means for checking, and out of the integrated circuit from the second bus interface.

Bianchini does not disclose means for generating a segmentation trailer, means for checking a segmentation trailer, or even a segmentation trailer itself. The claimed flow of cell-protocol and traffic-protocol over one data path has also not been disclosed in Bianchini.

Claim 9 is therefore not anticipated by Bianchini. However, the Examiner may wish to note that claim 9 has been amended to insert the missing article "the" before the third reference to "means for generating", and to replace a comma at the end of the claim with a period.

The remaining independent claims 45, 49 and 53 also recite features of a data path that have not been disclosed in Bianchini. Claim 45, for example, recites means for receiving network information in a cell-protocol and a packet-protocol, and for passing the network information through a single data path from a first bus interface and to a payload memory and then through the single data path from the payload memory and to a second bus interface that is adapted for coupling to a switch fabric. According to claim 49, an integrated circuit comprises a first bus interface adapted for coupling to a switch fabric, a second bus interface, and means for receiving network information in cell-protocol and packet-protocol, with the means also being

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for passing the network information through a single data path from the first bus interface to a payload memory and then through the single data path from the payload memory to the second bus interface. Claim 53 recites similar features in the form of method steps of receiving network information and passing the network information through a single data path.

Claims 45, 49, and 53, as well as claims 47, 48, 51, and 52, which depend therefrom, thus patentably distinguish over Bianchini for at least these reasons. Claims 47 and 51 add a further distinguishing feature of controlling a segmentation engine to process a first portion of the network information, which is received in a cell-protocol, in a first way and to process a second portion of the network information, which is received in a packet-protocol, in a second way. Claims 48 and 52 recite a similar feature in respect of a reassembly engine.

Claim 6 was rejected under 35 U.S.C.103(a) as being unpatentable over Bianchini in view of United States Patent 5,680,933 (hereinafter Cheesman). Although it is alleged on page 5 of the Office Action that Bianchini discloses all of the limitations with respect to claim 1, from which claim 6 depends, Applicant respectfully submits that claim 1 patentably distinguishes over Bianchini as discussed in detail above. Cheesman also fails to disclose or suggest at least the above distinguishing features of claim 1, and accordingly claim 6 is patentable over the combination of Bianchini and Cheesman for at least the same reasons as claim 1.

The rejection of claims 8, 46, and 50 under 35 U.S.C.103(a) as being unpatentable over Bianchini are similarly predicated on the alleged disclosure of all of the limitations of independent claims 1, 45, and 49 in Bianchini. Since Bianchini does not disclose the limitations of the independent claims, the dependent claims 8, 46, and 50 are patentable over Bianchini for at least the same reasons as independent claims 1, 45, and 49, respectively.

Applicant therefore respectfully submits that all of the claims 1 to 3, 6 to 9, and 45 to 53 are patentable over Bianchini and the combination of Bianchini and Cheesman.

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Reconsideration and withdrawal of the anticipation rejections under 35 U.S.C.102(e) and the obviousness rejections under 35 U.S.C.103(a) are respectfully requested.

In view of the foregoing, it is believed that the application is now in condition for allowance, and early action to this end is earnestly solicited.

Respectfully submitted,

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